

## Remarks

Claims 1–20 are pending and at issue. Of the claims at issue, claims 1, 6, 11, and 16 are independent.

The applicants have carefully considered the Office action mailed on January 5, 2007. In the Office action, claims 1–20 were rejected as anticipated by Rasmussen (6,640,334). In view of the following remarks, reconsideration of the application and allowance thereof is respectfully requested.

Claim 1 recites, *inter alia*, a method comprising receiving in an operating system runtime environment a firmware code update to be implemented in a multiprocessor system, storing the firmware code update, issuing an interprocessor interrupt to each processor of the multiprocessor system, storing state information for each processor of the multiprocessor system, and transitioning from the operating system runtime environment to a pre-operating system environment.

Rasmussen is directed to applying a firmware load update to a FLASH memory by allowing the inactive portion of the FLASH memory to execute an application. Rasmussen describes suspending activity in the active portion of a FLASH memory thereby allowing a random access memory (RAM) to enable the inactive portion of the FLASH memory. At the conclusion of the firmware load update, the RAM enables the active portion of the FLASH memory.

The Office action asserts that Rasmussen, col. 9, lines 1-16, describes a system with an inactive and active page in the FLASH ROM for updating the FLASH ROM. The inactive page is part of a shell routing that is used for updating. However, reliance on this portion of

Rasmussen is misplaced. The Office action appears to imply that an active portion of a FLASH memory is an operating system. Rasmussen states:

The copied application logic in RAM causes the microprocessor to enable the inactive page of the FLASH memory, performs one or more operation on the inactive page of the FLASH memory (e.g. writing bytes of an updated firmware load); and then causes the microprocessor to enable the active page of the FLASH memory before terminating. Termination of the copied application logic in RAM returns control to the shell routing running in the FLASH memory and releases the RAM occupied by the copied application logic. The shell routine may issue a response to the API command, prior to terminating.

Following the termination of the shell routine, suspended processes can resume on the basis of their respective state variables.

(Rasmussen, col. 9, lines 1-16). In other words, Rasmussen describes the suspension of the active portion of the FLASH memory allowing the RAM to enable the inactive portion to execute the firmware load. In effect, the Office action appears to characterize the active portion of the FLASH memory, as described in Rasmussen, as an operating system. Contrary to the contentions in the Office action, an operating system is known, to one of ordinary skill in the art, as a set of computer programs that manage the hardware, firmware and software of a computer, while a FLASH memory is non-volatile computer memory that can be erased and reprogrammed. Furthermore, the active portion of a FLASH memory is a state condition of the FLASH memory designating that portion as the portion currently enabled to execute an application. Additionally, a communication device (e.g. modem), as described in Rasmussen, receives data, buffers the data and then forwards the data to the destination all of which is determined outside of the control of the communication device, none of which requires an operating system.

Therefore, Rasmussen does not describe an operating system and does not describe transitioning from the operating system runtime environment to a pre-operating system environment. Accordingly, for at least the foregoing reasons, claim 1 and all claims depending therefrom are in condition for allowance.

Similar to claim 1, independent claims 6, 11, and 16 include recitations directed to transitioning from the operating system runtime environment to a pre-operating system environment. Therefore, for at least the foregoing reasons related to claim 1, claims 6, 11, and 16 and all claims depending therefrom are in condition for allowance.

### **Conclusion**

The applicants respectfully submit that all claims are in condition for allowance. Reconsideration of the application and allowance thereof are respectfully requested. If there is any matter that the examiner would like to discuss, the examiner is invited to contact the undersigned representative at the telephone number set forth below.

Respectfully submitted,  
HANLEY, FLIGHT & ZIMMERMAN, LLC  
150 South Wacker Drive  
Suite 2100  
Chicago, Illinois 60606

Dated: **May 7, 2007**

/Mark C. Zimmerman/  
Mark C. Zimmerman  
Reg. No. 44,006  
Attorney for Applicants  
312.580.1020